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Commonwealth of Virginia
Office of the Governor
Patrick Henry Building
1111 East Broad Street
Richmond, Virginia 23219
Attn. Mr. Douglas W. Domenech
Secretary of Natural Resources

Subject: Public Comments to Virginia's Draft Phase I
Watershed Implementation Plan (WIP)

Dear Secretary Domenech,

I would first like to commend you, your staff, state agencies and the Stakeholder Advisory Group in preparing what appears to be a practical, common sense based response to the federal EPA mandate that all participating states prepare a Draft Phase I Watershed Implementation Plan by September 1, 2010. The preamble contained in the introduction to this document speaks volumes to the level of sensitivity that Governor McDonnell's administration has acknowledged with great concern regarding the enormous potential economic impact that this initiative will likely impose on the people of the Commonwealth of Virginia.

In response to the issuance of the Public Review Draft of the subject WIP and on behalf of myself and several concerned rural residents of Rockingham County who have endorsed this document, I would like to respectfully offer comments specifically addressing the proposed provisions relating to Onsite/Septic systems as a contributing source of nutrients to the watershed. In the interest of brevity, I will limit my rather general comments to the bullet points outlining source sector strategies on page 12 of the document as opposed to the more detailed discussions in Section 8 on page 81.

Implement amendments to Virginia Department of Health regulations for alternative systems (currently under revision).

Emergency regulations recently adopted relating to alternative systems are evidence of the unanticipated consequences of a "hasty" regulatory move toward the more complex and technologically sophisticated alternative onsite systems that were perceived to be more effective at protecting the environment than the time proven conventional onsite septic systems. While these systems are highly effective at reducing nitrogen loss, they only do so when they are functioning as designed, installed and commissioned.

Consider revisions to the Code of Virginia to require all new and replacement systems in the Chesapeake Bay watershed to utilize either: (1) "shallow-placed" systems capable of reducing nitrogen loss (2) denitrification technology to reduce nitrogen loss.

OR

Consider requirements for additional nitrogen reducing technologies in certain defined sensitive areas.

Given the complex design of alternative systems and potential ramifications of a failure of any number of components, it might behoove the Commonwealth to re-review the site specific conditions that typically drive us toward a decision to mandate an alternative system in lieu of a conventional system which may not be as effective at reducing nitrogen loss on a daily basis, but is potentially more effective at consistently discharging a relatively high quality low BOD effluent in the long run due to the inherent reliability of such systems. Perhaps the decision between a conventional and alternative system should consider and more heavily weigh the environmental sensitivity of the site regarding relative proximity to impaired streams and not just the raw soils analysis data and drainage test results. It baffles me as to how some 50 year old conventional systems with relatively small drain fields can continue to provide excellent sub-soil drainage while the same locations would not pass a percolation test imposing today's standards. Could it be that we have gone too far with the standards? A decision to mandate an alternative design should be a last resort action. Conventional systems have many design advantages that are overlooked by those that would advocate alternative systems simply because of the superior nutrient removal efficiency of the alternative system.

- Alternative systems consume energy for blowers and pumps. The generation of that energy produces nitrogen in the form of nitrous oxide which eventually ends up in the bay. One third of the nitrogen in the bay comes from air sources. The power generation also produces carbon which is suspected of causing climate change. The conventional system has a zero carbon footprint.
- Alternative systems depend on the reliability of the electrical system and all electrical components that make up the system. The conventional system relies on gravity which is among the most reliable forms of renewable energy on the planet.
- Alternative systems are much more expensive than conventional systems. On-site systems are indigenous to the most rural areas of Virginia, the very same areas that frequently fall into a lower socio-economic environment where median incomes are typically lower than in those developed areas where public utilities services exist in abundance. Forcing the more expensive alternative system on these Virginian's unfairly places a higher per capita bay cleanup cost on those that can least afford it. This in itself will be the greatest challenge in implementing a WIP that incorporates stringent standards unilaterally on the rural community without regard for system size, potential environmental impact and other factors.

Having stated the concern of a perceived tendency to more often than not and perhaps unnecessarily mandating the more complex and costly system(s), I fully support the development and implementation of regulations that address the need to insure ongoing knowledgeable operation and maintenance of these complex systems once they are determined to be necessary, commissioned and turned over to the property owner. However, I would also point out that conventional systems can be prone to the same potential pit fall of failing if the owner of same is not knowledgeable of certain basic operating and lifestyle guidelines when living with any onsite system. A wise rule of thumb here is "An ounce of prevention is worth a pound of cure." I would therefore highly support as part of the WIP more public education on how to care for an onsite system. Those of us that are intimately familiar with how to keep a conventional system functioning trouble free for years know that the following guidelines are critical:

- Don't hydraulically overload the system. Conserve water and thus influent flow. Excess hydraulic loading will wash solids into the drain field causing damage.
- Don't organically overload the system. Avoid putting food waste down the kitchen sink and abide by the design of the system relative to persons served.
- Don't chemically shock load the system. Avoid heavily chlorinated household cleaners and sanitizing soaps favoring more organic options that will not upset the bio-mass in the septic tank. Biodegradable cleaning products and plain soap.
- Don't overload the system with solids such as paper and hygiene products.
- Do promote healthy bio activity in the system. While there are commercially available products available, an occasional dose of sour milk will also work.
- Last but not least, pump the system once every 5 years to remove excess solids.

Consider revisions to the Code of Virginia to encourage the use of community onsite systems.

Encouraging the use of community onsite systems will almost invariably result in the installation of more alternative systems which have already been discussed at length in regard to advantages and disadvantages. While one might suspect that amendments to the Virginia Department of Health Regulations requiring the assignment of licensed or certified operators to these systems would address most concerns about who will be responsible for community systems, it is highly likely that the locality may end up taking over operation in some cases. A system that is not owned by an individual entity but perhaps by a home owners association or other organization which may or may not be diligent in it's duties could become a liability to others. That being the case, promotion of community systems could become an unfunded mandate on the locality and thus the tax payers supporting that locality. This would be inherently unfair to the tax payers and for that reason, I would oppose same without including provisions to establish either sanitary districts or authorities where those contributing flow to the community system would be fully burdened with costs. Again the challenge will be the economics, as these systems may or may not be affordable to many of the rural residents of Virginia that might have these systems imposed on them in the lower income communities.

Expand the Nutrient Credit Exchange Program to include onsite systems and allow offsets of new septic loads or participation in offsetting increased nitrogen loads from additional onsite systems from other areas within the Chesapeake Bay Watershed.

In general this is a good idea. Perhaps a pool or bank of credits could be reserved for assisting certain rural residents that would otherwise not be able to afford upgrades. These credits could be funded by grants or could be offered at a discount rate based on a needs analysis on a case by case basis. Perhaps a system similar to the program that provides funding for septic system pump outs in sensitive areas could be incorporated.

Explore the feasibility of establishing tax credits or other financial incentives for upgrade/replacement of existing conventional systems with nitrogen reducing systems.

Not withstanding previous comments regarding the apparent trend to advocate alternative systems, I believe any free market based approach to encouraging a particular desired behavior is always better than a government mandated approach. Hence, if it is the opinion of the majority of stakeholders in this WIP that we want to encourage more alternative systems before they have actually proven their worthiness to improve upon the environmental impacts of onsite systems in general, than I would support the use of a tax credit or other financial incentive. However, let's keep in mind that "Cash for Clunkers" was not exactly an overwhelming success in doing anything more than wasting a lot of tax payer dollars and increasing the deficit. Such a program extended to the world of existing onsite systems could be an equally ineffective endeavor.

Explore the use of grants or other methods to defray expenses on low and moderate income households.

Explore the use of "Betterment Loans" for repairs to existing systems.

As stated previously, anything we impose on the users of onsite systems is going to potentially have a significant negative economic impact on many of those that can least afford it and will unfairly burden those Virginians with a disproportionate share of the economic responsibility for addressing the Chesapeake Bay watershed. I would therefore fully support any methodology to reduce this burden as much as possible.

I would point out that onsite systems are:

- Necessary in rural areas of the Commonwealth as it is simply not feasible or economically practical to consider expanding public service in rural counties beyond what the private sector market based development activity can justify.
- Provide safe, effective treatment of typical low organic loading from single family homes and small businesses.
- Reduce the potential for phosphorus loss unlike centralized treatment plants.
- Provide a valuable source of recharge for the aquifers that rural residents rely upon for well water supplies.

If there is any one common thread that weaves through many of the issues surrounding the subject of nutrient contributions from onsite systems and how best to address those issues, it is the economic impact to a specific sector of the public; i.e. those that must reside or do business in the rural areas of the Commonwealth. Hence, the final argument that I would make regarding how best to manage the situation is that one size or one set of solutions does not fit all circumstances. Therefore, the WIP must be flexible in how it approaches the various different circumstances. The concept of targeting the more environmentally sensitive areas with the more stringent requirements is a good start because at least it minimizes the shear number of people that are adversely impacted. However, the WIP needs to go farther in addressing for example the difference in the magnitude of the source. As an example, the small two bedroom 1000 square foot single family dwelling contributes less volume flow than the sprawling six bedroom 6000 square foot gentleman's farm mansion while both might sit side by side out in the country. Would it be fair to look at both systems through the same prism, the same set of standards that blindly mandate an alternative system with the same effluent concentration guidelines? Or would it not make more sense to allow a lower cost system with perhaps a more relaxed effluent standard for the small unit than the larger unit thus imposing the higher cost system and higher standard of treatment on the property owner that is in the better economic position to absorb the majority of the net impact of the regulation?

In closing I offer one final comment on a broader note. Challenging the motive, methodology and timing of what appears to be a Federal EPA fast track plan that has the potential to seriously impact the financial well being of 17 million Americans living through the worst economy in a generation and 88,000 farms struggling to remain competitive is a noble effort on the part of the Commonwealth's leadership. Even slowing this process down will help all of us that find ourselves in the unenviable position of living and working within the 64,000 square mile watershed that is ground zero in the cross hairs of big government. Therefore, I would urge the current administration to do everything in it's power to minimize the impacts and delay the actions that this initiative might impose on the citizens of Virginia in hope that it will not impede an economic recovery. Without economic recovery and the necessary tax revenues to properly implement the proposed plan with adequate federal and state funding, we are sure to fail again and do nothing to help the health and well being of the Chesapeake Bay and those that rely on this body of water for their livelihood.

Sincerely,

Warren G. Heidt

Cc: Virginia Department of Conservation and Recreation
United States Environmental Protection Agency Region III